How is the Pool Price for Electricity Determined?

At the heart of Alberta's electric system is the AESO's System Coordination Centre (SCC), which is staffed 24 hours a day, seven days a week by a team of skilled system controllers. The SCC plays a central role in managing the real-time operation of Alberta's electric system and facilitating the operation of Alberta's wholesale electricity market.

A fundamental principle of Alberta's electricity system is that supply (electricity produced by generators) and demand (electricity consumed) must be perfectly matched at all times. The Energy Management System (EMS) is used by system controllers to maintain this balance. The EMS continually collects data from every generator connected to the transmission system, enabling system controllers to match the supply of electricity with demand and monitor the health of the provincial electric system.

The SCC is also home to a second critical information system, the Energy Trading System (ETS). The wholesale electricity market in Alberta operates much like a stock exchange, matching offers from market participants who wish to sell electricity with bids from market participants who wish to buy it. A market participant is any organization who generates, buys or sells, transmits, distributes, trades, imports or exports electricity in the Alberta market.

How is the supply and demand for electricity managed?

Market participants who wish to buy or sell electricity submit several supply offers and demand bids to the market on a day ahead basis for every hour, 24 hours a day.

These supply offers and demand bids are sorted from the lowest to highest price for each hour of the day into a list called a "merit order." System controllers use the merit order to balance the supply of electricity, starting at the lowest priced supply offers and moving up to the highest. In this way, the AESO ensures Alberta's overall electricity needs are met by the most competitively priced electricity.

Typically, the demand for electricity is high in the morning as Albertans prepare to start their day and declines slightly to a steady level throughout the day. A second increase occurs in the early evening hours as Albertans return home from work or school and place more demand for electricity on the system using home appliances and street lighting. Demand then decreases throughout the night. Demand shifts with the seasons as well; cold weather increases the demand for electricity required to run our heaters, furnaces and lighting. System controllers constantly monitor these fluctuations in demand, matching the supply from generators with consumers of electricity.

How is the pool price set?

Every minute, the highest priced offers/bids submitted from the market and dispatched by system controllers set the System Marginal Price (SMP). Each hour, the pool price is calculated by averaging all 60 of these one-minute SMPs. The SMP is posted to the AESO website in real time and the pool price is then posted after the end of the hour and is used in financial settlement to calculate payments to suppliers and charges to wholesale consumers.

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